

(12) **United States Patent**  
**Silver**

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(54) **SENSORS FOR DETECTING SUBSTANCES  
IN BODILY FLUIDS**

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(58) **Field of Classification Search**

None

See application file for complete search history.

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(57) **ABSTRACT**

A system is disclosed that extracts bodily fluid to a reaction chamber for monitoring a substance or property of the patient fluid. In one embodiment, a pump is used to advance the sample of bodily fluid through a filter to produce a filtrate. Another pump advances filtrate into the reaction chamber, while another pump advances reactant into the reaction chamber. A sensor in communication with the reaction chamber determines a concentration of nitric oxide or one of its metabolic products. Methods are also disclosed.

**13 Claims, 53 Drawing Sheets**

